Is there a Life Expectancy Preston Curve for Africa?

Extended Abstract

Background: Since biblical times, the influence of economic conditions on mortality has long been recognized. An important milestone in understanding the relationship between health and economic growth was laid during the second quinquennium of the 1970s, which recognizes the causality rather than complementarities, that exist between them. The emphasis thereon, is the need to mainstream health concerns into the planning process in order to ensure sustainable human capital development.

Objective: Preston (1975), in the path-breaking paper, 'The Changing Relation between Mortality and Level of Economic Development', had extended this milestone, by providing seminal evidence in support of a rotation-shaped (increasing concave) relationship between life expectancy at birth (years) and economic growth (measured by GDP per capita). This relationship is the so-called 'Preston curve (PC)'. Although the PC phenomenon has since received further popularization, there is still a great deal of dispute about the mechanisms that lie behind the relationships, as academic and policy makers have continued to debate the existence and its policy implications. This study represents an empirical contribution to the existing knowledge and debate on the Preston curve (PC) hypothesis; and searches specifically for PCs for selected groups of African countries. The study also provides insightful descriptive statistics and Granger causality tests to shed light on the causality issue.

Methods: A balanced multivariate statistical analyses is conducted on a longitudinal data spread for the period 1970-2018, to explore the relative effects of income (and education) in explaining the changing mortality patterns of African countries. A Hausman test is conducted to choose between fixed-effect and random-effect specification for country-level unobserved effects, and the preferred-effect model is fitted to the specified model. To rule out the possibility that the associations that are being interpreted could also be spurious, granger causality tests are conducted.

Findings: A scan at the datasets and preliminary results show a significant relationship for both income and education on the one hand, and life expectancy. There appears to be a strong

empirical association validated by the granger causality narratives, and the likelihood of ruling out alternative explanations of selectivity and reverse causality.

Conclusion: Evaluating the health-income relationship may suggests apparent positive association between health and income albeit attributed to increasing educational attainment, that may lead to rising incomes and better health outcomes. The patterns seem to suggest that quality education should be considered a policy priority for improving the health and wellbeing of Africans.

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